

REMARKS

Claims 1 - 20 continue to be in the case.

The Office Action refers to Claim Rejections - 35 USC § 102.

Claims 1,4,5,7,8,13 are rejected under 35 U.S.C. 102(b) as being anticipated by Varkony. This patent discloses a mixing shaft including a steel core coated with a wear material along with mixing elements that are also coated.

Applicants respectfully request clarification as to what the Office Action means by “that are also coated”. Does this mean that the mixing elements are also coated like the steel core or are the mixing elements themselves coated?

According to the reference Varkony, column 2, lines 17 to 19: “The agitator shaft and the brackets are formed of appropriate strong, rigid metal, such as steel.” No statement is found in the Varkony reference as to the material of the blades and of the ends.

The reference Varkony states in column 2, lines 19 to 22: “The entire length of the agitator shaft and the brackets are coated with a coating of rubber or other appropriate material which is continuous and covers all of the agitator shaft and the brackets ...”. The reference Varkony in column 2, lines 29 and 30: “Each agitator blade is demountable and has a continuous coating 41 of rubber or ...”. The reference Varkony continues in column 2, lines 57 to 58: “As shown in Fig. 3, the ends of the agitator blades may be provided with an extra layer

46 of rubber or the like, ...”. Thus the reference Varkony teaches that the agitator shaft, the brackets, the blades and the ends are structural members with a rubber coating.

Claim 1 of the present application as amended requires: “mixing elements (4) homogeneous with the coating (3), wherein the steel core (3), the coating (6), and the mixing elements (4) form a structured mixing shaft (1) and wherein the coating (6) and the mixing elements (4) consist of the same plastic material.”

Whereas the reference Varcony teaches an agitator shaft and brackets made of steel and furnished with a coating, claim 1 of this application distinguishes over such construction by requiring that the mixing elements (4) and the coating (6) consist of the same plastic material.

It is a substantial change by the present application that mixing elements are formed by a material serving at the same time as a coating of a steel core (3).

Note that the particular material being treated does not further limit the structure of an apparatus claim.

Applicants respectfully submit that the integration and the homogeneous structure of the mixing elements (4) with the coating (6) further limit the structure of an apparatus claim.

The Office Action refers to Claim Rejections ■ 35 USC § 103.

Claims 3, 6, 9-12, 14, 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Varkony. The limitations of these claims would have been obvious modifications once the basic apparatus was known. For example, the use of stainless steel for shaft material is well known in the art and of no patentable merit.

While it is recognized that stainless steel is a remarkable material, this does not make it suitable for every application. For example the Varkony reference teaches steel brackets, claim 1 of this application requires that the mixing elements are to be made of a suitable coating material and no mixing elements made of stainless steel are proposed in the instant application.

Also, the placement of the mixing elements would depend on several factors such as material being treated and desired end results.

The placement of mixing elements according to the present invention is also limited by having the same material used for mixing elements (4) and as a coating (6) for the steel core (3).

Finally, for apparatus claims, the method of making the article is not further limiting to the claimed structure.

Applicants urge that the resulting smooth transition of mixing elements (4) into the coating (6) of the steel core (3) is due to employment of the same material for coating (6) and mixing elements (4). Thus the

method of making is clearly important for the structural properties of the present invention device.

Claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Varkony as applied to claim 1 above, and further in view of Mazowski. Varkony uses rubber as a coating material. This may not be proper for various types of material being treated. Mazowski solves this problem by disclosing similar apparatus including the use of teflon as a coating material.

Applicants observe that the reference Mazowski in column 3, line 3 proposes an outer coating 46 made of Teflon. Claim 2 of this application as amended calls not only for a coating being made of Teflon, but also requires that the mixing elements be made of Teflon.

In order to be able to treat various materials, it would have been obvious for one of ordinary skill in the art to modify Varkony by using Teflon as the coating material, taught to be desirable by Mazowski.

While the present application discloses a special method for the use procedure of Teflon and uses Teflon not only as a coating, but also to form the bulk of the mixing elements (4) attached to the coating (6) around the steel core (3), both references Varkony and Mazowski agree not to use Teflon to form the bulk of mixing elements (4) attached to the coating around the steel core (3).

SUPPLEMENTAL OFFICE ACTION

This action is supplemental to the action mailed 10/28/08 due to an inadvertent omission of the rejection of claims 16-20.

The Office Action refers to Claim Rejections - 35 USC § 103.

Claims 16-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (APA) in view of Varkony. APA is the process discussed in the third paragraph of page 4 of applicant's specification. APA is the known process of the isotatic pressure and temperature placement of Teflon coating onto steel surfaces. APA does not discuss the integral attachment and coating of mixing elements on a steel shaft. Varkony shows such a process. In order to strengthen a mixing shaft, it would have been obvious for one of ordinary skill in the art to modify APA by integrating the mixing elements with the coating and shaft, taught to be desirable by Varkony. The remaining limitations would then have been obvious process choices by one of ordinary skill in the art.


Claim 16 as amended requires that "applying a coating (6) and mixing elements (4) consisting of the same plastic material onto the structured surface of the steel core (3) at isostatic pressure (p) and at increased temperatures (T)". The reference Varkony does not teach using the same plastic material for a coating and for a mixing element as is required in claim 16.

All claims are deemed to be in allowable form and a Notice of allowance is earnestly solicited.

Reconsideration of all outstanding rejections is respectfully requested.

Respectfully submitted,

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